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INTERNATIONAL BULLETIN
OF PLANT PROTECTION

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## DISCOVERIES AND CURRENT EVENTS *

### Canada: Plant Diseases in 1938 †

The present resume records some of the more serious outbreaks of plant diseases in Canada during 1938, certain significant outbreaks of minor or relatively new diseases and all the more important diseases new to Canada, recognized in the past year.

Stem rust of wheat (*Puccinia graminis*) was destructive, not only in Manitoba and eastern Saskatchewan, but also in the Maritime provinces and Quebec. It appeared in southern Saskatchewan on June 21, two weeks earlier than normal, and in Manitoba on June 22, a week before the usual date. As the result of frequent heavy spore showers and favourable weather conditions, a severe outbreak developed in Manitoba. While susceptible wheat varieties were materially reduced in both yield and grade by rust, fortunately only about 14 per cent. of the wheat acreage in that province was sown to susceptible varieties. Rust development was limited to slight traces on the rust resistant varieties, Renown and Thatcher. Stem rust spread throughout Saskatchewan and far into Alberta, but severe rust damage was confined to eastern Saskatchewan. It caused moderate damage to a few late fields in western Saskatchewan and eastern Alberta. Severity of infection ranged from 30 to 100 per cent. at the time of examination in over half the fields in Nova Scotia, Prince Edward Island, and New Brunswick, and it is estimated that in most fields it eventually caused moderate to severe damage. However, the rust-resistant varieties now being extensively tested in these provinces were clean or showed only traces of rust. Rust damage was apparently severe in Quebec and slight to moderate in Ontario, but this conclusion is based on a strictly limited number of observations.

Leaf rust of wheat (*Puccinia triticina*) was unusually prevalent in western Canada in 1938. It was epidemic in most sections of Manitoba and of eastern Saskatchewan. Of all the commercial wheat varieties, Thatcher was the most severely attacked. Renown was also rusted, but less severely, while the old standard varieties, Marquis, Reward, and Ceres bore infections intermediate between those of Thatcher and Renown. Yields of all varieties were considerably reduced by this rust. Controlled epxeriments at the Dominion Laboratory of Plant Pathology, Winnipeg, demonstrated that yields and grades of Thatcher

* Under this and the next heading the countries are arranged in French alphabetical order.

† Communication from Mr. I. L. CONNERS, transmitted by the official correspondent of the Institute, Dr. H. T. Güssow, Dominion Botanist, Division of Botany and Plant Pathology, Science Service, Department of Agriculture, Ottawa, Canada.

and Renown were reduced by leaf rust and in the case of Thatcher the reduction in yield was quite pronounced. It is conservatively estimated that leaf rust, in some localities, reduced the yield of early-sown Thatcher by about 25 per cent. and in late-sown fields the reduction in yield amounted to 35 per cent. or more. Leaf rust was prevalent from Quebec eastward on Huron and other varieties commonly grown in these provinces.

Stem rust of oats (*Puccinia graminis*) was mildly epidemic in Manitoba and eastern Saskatchewan this year. In addition, stem rust would appear to have been locally destructive in Ontario and Quebec, but no information is available to indicate whether these outbreaks centre about plantings of barberry, or are due to wind-borne inoculum from a distance. In the Maritime provinces stem rust seldom exceeded a trace. At a few points, badly rusted fields were observed, but the infection was even less than last year. Barberries are definitely known to occur in some of these centres.

Crown rust (*Puccinia coronata*) was prevalent in eastern Saskatchewan and Manitoba. It was also prevalent through most of Eastern Canada, although it was not as destructive as in 1937. Further evidence was obtained that buckthorn plantings are responsible for severe outbreaks of crown rust. Moreover, crown rust apparently possesses greater powers of spreading than stem rust, so that a few bushes strategically located may be responsible for an epidemic over a relatively large area.

The prevalence of wheat bunt (*Tilletia caries* and *T. levis*) in Western Canada remains unchanged at about 3 smutty cars per 1,000. However, out of 309 cars of winter wheat from Alberta, 69 cars or 22.3 per cent. graded smutty. Bunt was also reported to be heavy in winter wheat in British Columbia. The oat smuts (*Ustilago avenae* and *U. kolleri*) continue to be prevalent across Canada. In the Maritime provinces this year, 25 per cent. of the fields examined showed 5 per cent. or more of smut.

Head blight of cereals is evidently a minor disease in Canada. However some of the fungi isolated from diseased heads are worthy of mention. *Botrytis cinerea* was isolated from blighted heads of oats from Nova Scotia, and New Brunswick. As far as we are aware this is the first report of a *Botrytis* on oats. *Fusarium graminearum* was isolated from head blight samples of wheat collected in the Maritimes. While this species is reported as common in some countries, it has been rarely encountered in Canada. The common head blight pathogens in this country are *F. poae*, *F. avenaceum* and *F. culmorum*. Head blight in barley is usually caused by *Fusarium* spp. (usually the three just mentioned) and *Helminthosporium sativum*.

Ergot (*Claviceps purpurea*) was a problem in wild rice (*Zizania aquatica*) in northern Manitoba, where the crop was of considerable commercial value this year, due to a crop failure in Minnesota. The sclerotia have been collected previously in Ontario, New Brunswick, and Nova Scotia.

Late blight of potato (*Phytophthora infestans*) was prevalent over most of Eastern Canada. In New Brunswick a loss of 50 per cent. of the crop from rot was not uncommon, while in Prince Edward Island, early killing of the tops in a crop, which was planted late due to wet weather in the spring, resulted in

a marked reduction in the yield of marketable tubers. Bacterial wilt and rot (*Phytomonas sepedonica* [Spieckerm. and Kotth.] Magrou) was destructive in Quebec and was found in a larger number of fields in New Brunswick. In addition it was observed for the first time in Alberta, Saskatchewan, Manitoba, Ontario, and Prince Edward Island, where it was detected in one or a few fields. The smear method has proved extremely useful in detecting the organism in tubers suspected of harbouring the disease, and it is anticipated that its use will accelerate the elimination of diseased stocks.

Psyllid Yellows was epidemic in Alberta and Saskatchewan, although the damage was not great except near psyllid-infested greenhouses about Calgary and other urban centres, where it has been known since 1932. The epidemic was severe in several of the States to the south.

Purple Top is another somewhat similar disease occurring in the Prairie provinces. While it is widely distributed, the damage has seldom exceeded a trace in Canada. The recent work of Leach at Minnesota, suggests that it may be Aster Yellows, but the trouble has not been transmitted through the tubers. Further studies are necessary to determine whether or not the disease can be induced only by viruliferous leafhoppers.

Besides the potato diseases, several vegetable diseases deserve mention. Bacterial blight (*Phytomonas phaseoli*) caused a loss of $ 50,000 to the bean crop in the irrigated areas of southern Alberta. Blight (*Phomopsis vexans*) was destructive to egg-plant in the Niagara peninsula, Ont. Downy mildew (*Peronospora spinaciae*) was unusually injurious to spinach this year at Vancouver, B. C., and in the Niagara peninsula, Ont. Anthracnose (*Colletotrichum phomoides*), a not uncommon disease of imported tomatoes, was epidemic and greatly reduced the marketable fruit in important canning areas in Essex and Kent counties of Ontario. Bacterial blight (*Phytomonas carotae* Kendr.) previously unreported in Canada, was observed at Brandon in 1935 and again this year at Brandon and near Winnipeg. Black root (*Aphanomyces raphani* Kendr.) is a disease of radish new to Canada found at Macdonald College, Que. this year.

Downy mildew or blue mould (*Peronospora tabacina* Adam) was reported in Canada for the first time, when in was found in eight seed beds and four fields in the Old Tobacco Belt in Essex and Kent counties, Ont. How serious the disease may become under Canadian conditions is difficult to forecast.

The fruit disease situation has changed but little in the past year. Apple scab (*Venturia inaequalis*) was well controlled in the commercial growing areas in eastern Canada and was practically absent in the interior of British Columbia. While fire blight has been locally destructive in most parts of the Dominion, it has never been reported from Alberta or from the famous commercial orchards of the Annapolis valley, N. S. This year what appears to be this disease caused some damage to nursery stock in the latter province. Drought spot or corky core, a boron deficiency disease, is no longer a problem in British Columbia in orchards receiving soil treatments with boric acid. Moreover, applications made in 1936 were still 100 per cent. effective in 1938. A survey of the cherry orchards in the Okanagan valley, B. C., revealed a small amount of crinkle, which is apparently a genetic abnormality. Coryneum blight (*C. beijerinckii*) was report-

ed on peach about Leaminton, Ont.; the disease was previously known from British Columbia.

Diseases of ornamentals new to Canada were: Bacterial leaf spot (*Phytomonas woodsii* [E. F. Sm.] Bergey et al.) of carnation in Ontario; Fusarium corm rot (*F. oxysporum* var. *gladioli* Massey) in Manitoba; root rot (*Diplodia radicicola* Tassi) on *Aristolochia sipho* in Ontario; foliar nematode (*Aphelenchoides ritzema-bosi* Schwarz) on greenhouse chrysanthemums in Ontario.

Other important observations on diseases of ornamentals were: A serious disease of gladiolus, which has been known in Prince Edward Island since 1933, was recognized as yellows (*Fusarium* spp., *Elegans* section); it was found in Manitoba and Saskatchewan in 1937 and in Ontario this year. Botrytis rhizome rot (*Sclerotinia convoluta*) was observed at Summerland, B. C., the only previous record being from Ottawa, Ont., in 1927. Powdery mildew (*Microsphaera alni*), which is common on lilac was found on privet in Ontario and Prince Edward Island. *Phytophthora cactorum* caused the blossom blight of tulip at Belleville, Ont., and dark berry, a new disease of *Cotoneaster horizontalis* on Vancouver island, B. C.; this pathogen was recorded on pears at Kentville, N. S. in 1919. Crown rot (*Phytomonas delphinii*), quite a common disease of *Delphinium*, developed on *Aconitum* at Brandon, Man. Hollyhock rust (*Puccinia malvacearum*) was found on *Althaea rosea* at Edmonton,Alta.; it is now present in every province in Canada except Saskatchewan. Rust (*Puccinia cyani*) on *Centaurea cyanus* is now known from British Columbia and Nova Scotia as well as Ontario.

## Eritrea and Amhara: Locusts *

*Schistocerca gregaria.* During May 1939, no desert locusts were reported in the territories of Eritrea and Amhara.

*Locusta migratoria migratorioides.* This locust was not observed in the territory of Eritrea. On May 23 and 24, however, in Amhara Territory, swarms were again seen coming from the north-west which flew over the Gondar region and the surrounding country. The insects settled and paired.

## Palestine: Diseases of Field Crops †

In the following a preliminary list is given of diseases occurring on field crops in Palestine, as studied at the Division of Plant Pathology of the Agricultural Research Station, Rehovot, from 1923 to 1938. The author was assisted in the collection and determination of these diseases by Dr. M. Chorin, Ing. G. Minz, Dr. J. Perlberger and Dr. F. Littauer, assistants at the above mentioned laboratory.

* Communication from Dr. MARCELLO GUBELLINI, Acting Chief of the Agricultural Bureau of Eritrea, Asmara, transmitted to the Institute by the Government of the Colony.

† Communication from the official correspondent of the Institute, Dr. I. REICHERT, Chief Plant Pathologist, Division of Plant Pathology, Agricultural Research Station, Rehovot, Palestine.

| | | |
|---|---|---|
| *Avena sativa* Linn.-Oats. | *Erysiphe graminis* DC. | Mildew. |
| | *Fusarium* sp. | Root rot. |
| | *Helminthosporium* sp. | Leaf spot (blotch ?). |
| | *Helminthosporium* sp. | Stripe disease. |
| | *Puccinia coronifera* Klebahn. | Crown rust. |
| | *P. graminis* Pers. | Stem rust. |
| | *Rhizoctonia solani* Kühn. | Root rot. |
| | *Septoria* sp. | Leaf spot. |
| | *Ustilago avenae* (Pers.) Jens. | Loose smut. |
| | *Ustilago levis* (Kell. et Sw.) Magn. | Covered smut. |
| | Leaf blotch. | |
| *Citrullus vulgaris* Schrad.-Watermelon. | *Alternaria* sp. | Leaf spot. |
| | *Fusarium* sp. | Wilt. |
| | *Fusarium* sp. | Fruit rot. |
| | *Oidium* sp. | Mildew. |
| | *Rhizopus* sp. | Fruit rot. |
| | Sun scald. | Leaves. |
| | Tip burn. | Seedling leaves. |
| | *Heterodera marioni* (Cornu) Goodey. | Root knot. |
| *Crotalaria anagyroides* H. B. et K. | *Alternaria* sp. | Black leaf spot. |
| | *Stemphylium* sp. | Black leaf spot. |
| *Glycine soja* Sieb. et Zucc.-Soya bean. | *Sclerotium bataticola* Taub. | Black spots on stem, wilt. |
| | *Uromyces sojae* (Henn.) Syd. | Rust on leaves. |
| *Helianthus annuus* Linn. – Sunflower. | *Sclerotium bataticola* Taub. | Root rot; wilt. |
| *Hordeum sativum* Linn. – Barley. | *Erysiphe graminis* DC. | Powdery mildew. |
| | *Fusarium* sp. | Root rot. |
| | *Helminthosporium gramineum* Rab. | Stripe disease. |
| | *Helminthosporium* sp. | Spot blotch. |
| | *Puccinia graminis* Pers. | Rust. |
| | *Puccinia simplex* (Koernicke) Erikss. | Rust. |
| | *Septoria* sp. | Leaf spot. |
| | *Ustilago hordei* (Pers.) Kell. et Sw. | Covered smut. |
| | *U. nuda* (Jens.) Kell. et Sw. | Loose smut. |
| | Root rot (undetermined). | |
| | Leaf blotch (undetermined). | |
| *Lens esculenta* Moench. – Lentil. | *Alternaria* sp. | Leaf brownishing. |
| | *Cladosporium* sp. | Pod brownishing. |
| | *Uromyces* sp. | Rust. |

| | | |
|---|---|---|
| *Lolium perenne* [Linn. – Rye-grass. | *Alternaria* sp. | Leaf spot. |
| | *Fusarium* sp. | Root rot. |
| | *Helminthosporium* sp. | Leaf spot. |
| | *Phyllosticta* sp. | Leaf spot. |
| | *Pleospora* sp. | Leaf spot. |
| | *Puccinia coronata* Corda. | Crown rust. |
| *Lupinus* sp. – Lupine. | *Fusarium* sp. | Damping off, collar and root rot. |
| | *Oidium* sp. | Powdery mildew. |
| | *Pestalozzia lupini* Dor. | Leaf spot. |
| | *Rhizoctonia solani* Kühn. | Collar and root rot. |
| | *Sclerotium bataticola* Taub. | Collar and root rot. |
| | *Uromyces* sp. | Rust. |
| | Frost injury. | |
| | *Heterodera marioni* (Cornu) Goodey. | Root knot. |
| *Medicago sativa* Linn. – Alfalfa. | *Alternaria* sp. | Leaf spot, sooty mould on stem. |
| | *Cercospora medicaginis* Ell. et Ev. | Leaf spot. |
| | *Cladosporium* sp. | Stem-blackening, black stem spots. |
| | *Fusarium* sp. | Collar and root rot. |
| | *Leptosphaeria* sp. | Leaf spot. |
| | *Macrosporium* sp. | Leaf spot associated with *Alternaria*; sooty mould on leaf; wilt, root rot ? |
| | | Leaf spot. |
| | *Oidium* sp. | Mildew. |
| | *Peronospora trifoliorum* de By. | Downy mildew. |
| | *Pleospora* sp. | Leaf spot. |
| | *Phytophthora* sp. | Collar rot. |
| | *Pythium* sp. | Wilt, root rot. |
| | *Rhizoctonia solani* Kühn. | Root rot, wilt. |
| | *Sclerotium bataticola* Taub. | Collar and root rot. |
| | *Uromyces medicaginis* Pass. | Rust. |
| | Drying of seedlings (non-parasitic). | |
| | Leaf spot (undetermined). | |
| | Wilt, drying of roots (non-parasitic). | |
| | *Cuscuta* sp. | On plants. |
| | *Heterodera marioni* (Cornu) Goodey. | Root knot. |
| *Melilotus indica* (Linn.) All.-Sweet clover. | *Heterodera marioni* (Cornu) Goodey. | Root knot. |

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|---|---|---|
| *Panicum italicum* Linn. | *Rhizoctonia solani* Kühn. | Rot. |
| *Pennisetum longistylum* Hochst.-Napier grass. | *Polyporellus rhizophilus* (?) (Pat.) Pilat. | Rot. |
| | *Rhizoctonia solani* Kühn. | Rot. |
| *Saccharum officinarum* Linn. – Sugar cane. | *Cladosporium* sp. | Sooty mould on leaves. |
| | Mosaic on leaves (virus ?). | |
| *Secale cereale* Linn. – Rye. | *Puccinia graminis* Pers. | Rust on leaves and stem. |
| *Sorghum annuum* Pers. – Durrha. | *Cladosporium herbarum* (Link.) Fr. | Black mould. |
| | *Sphacelotheca sorghi* (Link) Clinton. | Covered smut. |
| | *Ustilago reiliana* (Kühn) McAlp. | Head smut. |
| | Small yellow leaf spot (undetermined). | |
| *S. halepense* Pers. | *Puccinia purpurea* Cke. | Rust on leaf and stem. |
| *S. vulgare* Pers. var. *sudanense*. | *Bacterium* sp. | Green leaf spots. |
| *Trifolium alexandrinum* Linn. – Berseem (Clover). | *Alternaria* sp. | Black spot. |
| | *Ascochyta trifolii* A. Bond. et Trus. | Leaf spot. |
| | *Bacterium* sp. | Wilt. |
| | *Cladosporium* sp. | Associated with spot. |
| | *Fusarium* sp. | Wilt, root rot, damping off. |
| | *Leptosphaeria* sp. | Leaf spot. |
| | *Macrosporium* sp. | Leaf spot. |
| | *Oidium* sp. | Powdery mildew. |
| | *Phoma* sp. | Stem spot. |
| | *Phyllosticta trifolii* Richon. | Leaf spot. |
| | *Pleospora* sp. | Stem and leaf spot. |
| | *Rhizoctonia solani* Kühn. | Wilt, collar and root rot, damping off. |
| | *Sclerotium bataticola* Taub. | Wilt, root rot, damping off. |
| | *Sclerotinia sclerotiorum* (Lib.) Mass. | Dry rot. |
| | *Sclerotinia trifoliorum* Erikss. | Stem and root rot. |
| | *Stemphylium* sp. | Associated with leaf spot. |
| | *Uromyces* sp. | Leaf rust. |
| | Leaf scorch (non-parasitic). | |
| | *Cuscuta* sp. | Dodder. |
| *Trigonella foenum-graecum* Linn.–Fenugreek. | *Uromyces* sp. | Leaf rust. |
| *Triticum compactum* Host. | *Puccinia graminis* Pers. | Stem rust. |

| | | |
|---|---|---|
| *Triticum dicoccum* Schrank. – Emmer. | *Puccinia graminis* Pers. | Stem rust. |
| *T. duro-compactum.* | *Puccinia glumarum* (Schm.) Erikss. et Henn. | Stripe-rust. |
| | *P. graminis* Pers. | Stem rust. |
| | *P. triticina* Erikss. | Leaf rust. |
| | *Septoria* sp. | Speckled leaf-blotch. |
| *T. durum* Desf. – Hard wheat. | *Heterosporium* sp. | Leaf spot. |
| | *Puccinia glumarum* (Schm.) Erikss. et Henn. | Stripe-rust. |
| | *P. graminis* Pers. | Stem rust. |
| | *P. riticina* Erikss. | Leaf rust. |
| | *Septoria* sp. | Leaf blotch. |
| | *Tilletia tritici* (Bjerl.) Wint. | Covered smut (bunt). |
| | *Ustilago tritici* (Pers.) Rostr. | Loose smut. |
| | *Tylenchus tritici* (Stein) Bast. | Roots. |
| | Mosaic-like spot (undetermined). | Leaves. |
| *T. turgidum* Linn. | *Puccinia graminis* Pers. | Stem rust. |
| *T. turgidum* var. *speciosum.* | *Puccinia graminis* Pers. | Stem rust. |
| *T. vulgare* Vill. – Soft wheat. | *Puccinia glumarum* (Schm.) Erikss. et Henn. | Stripe-rust. |
| | *P. graminis* Pers. | Stem rust. |
| | *P. triticina* Erikss. | Leaf rust. |
| | *Septoria* sp. | Speckled leaf-blotch. |
| | *Tilletia tritici* (Bjerk.) Wint. | Covered smut (bunt). |
| | *Ustilago tritici* (Pers.) Rostr. | Loose smut. |
| | Mosaic-like spot (undetermined). | Leaves. |
| *Triticum* sp. – Wheat. | *Chaetomium* sp. | Mould. |
| | *Cladosporium herbarum* (Link) Fr. | Sooty mould. |
| | *Erysiphe graminis* DC. | Powdery mildew. |
| | *Fusarium* sp. | Root rot and damping off. |
| | *Helminthosporium* sp. | Stripe-rust. |
| | *Heterosporium* sp. | Spot. |
| | *Puccinia glumarum* (Schm.) Erikss. et Henn. | Stripe-rust. |
| | *P. graminis* Pers. | Stem rust. |
| | *P. triticina* Erikss. | Leaf rust. |
| | *Rhizoctonia solani* Kühn. | Damping off. |
| | *Sclerotium bataticola* Taub. | Root rot. |
| | *Septoria graminis* Desm. | Speckled leaf-blotch. |

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| *Triticum* sp. – Wheat. | *Tilletia levis* Kühn. | Covered smut (bunt). |
| | *T. tritici* (Bjerk.) Wint. | Covered smut (bunt). |
| | *Ustilago tritici* (Pers.) Rostr. | Loose smut. |
| | *Tylenchus tritici* (Stein) Bast. | Roots. |
| *Vicia faba* Linn. – Broad-bean. | *Alternaria* sp. | Black leaf spot. |
| | *Ascochyta fabae* Speg. | Stem, leaf and pod spot. |
| | *Bacterium* sp. | Breakdown spot on stem. |
| | *Botrytis* sp. | Leaf spot. |
| | *Fusarium* sp. | Stem, collar and root rot. |
| | *Macrosporium* sp. | Leaf spot. |
| | *Peronospora* sp. | Downy mildew. |
| | *Pythium* sp. | Root rot. |
| | *Rhizoctonia solani* Kühn. | Collar and root rot. |
| | *Uromyces fabae* (Pers.) de By. | Rust. |
| | Leaf scorch (non-parasitic). | |
| | Leaf spot (non-parasitic). | |
| | Pod pock (undetermined). | |
| | Pod spot (non-parasitic). | |
| | Stem spot (non-parasitic). | |
| | Leaf mosaic (virus ?). | |
| | *Orobanche* sp. | |
| *V. sativa* Linn.-Vetch. | *Fusarium* sp. | Rot. |
| | *Macrosporium* sp. | Brown rot. |
| | *Oidium* sp. | Powdery mildew. |
| | *Peronospora* sp. | Downy mildew. |
| | *Uromyces fabae* (Pers.) de By. | Rust. |
| | *Cuscuta* sp. | Dodder. |
| *Vigna sinensis* Endl. – Cowpea. | *Alternaria* sp. | Black leaf spot. |
| | *Bacterium* sp. | Brown spot on seed. |
| | *Colletotrichum lindemuthianum* (Sacc. et Magn.) Briosi et Cav. | Anthracnose. |
| | *Macrosporium* sp. | Leaf spot. |
| | *Rhizoctonia solani* Kühn. | Collar rot. |
| | *Sclerotium bataticola* Taub. | Root rot. |
| | *Uromyces vignae* A. Barclay. | Rust. |
| | Chlorosis (non-parasitic). | |
| | Gum spot (non-parasitic). | Leaves. |
| | Leaf spot (undetermined). | |
| | *Heterodera marioni* (Cornu) Goodey. | Root knot. |

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| *Zea mays* Linn. – Corn. | *Alternaria* sp. | Sooty mould. |
| | *Aspergillus* sp. | Ear mould, seed mould. |
| | *Bacterium* sp. | Ear soft rot. |
| | *Epicoccum* sp. | Leaf spot. |
| | *Fusarium moniliforme* Sheldon var. *minus* Wr. | Root rot. |
| | *Fusarium* sp. | Ear rot, root rot, leaf rot. |
| | *Phoma* ? | Root rot. |
| | *Puccinia sorghi* Schw. | Rust. |
| | *Sclerotium bataticola* Taub. | Collar and root rot. |
| | *Ustilago zeae* (Beckm.) Ung. | Smut. |
| | *Vermicularia* sp. | Stem. |
| | *Heterodera marioni* (Cornu), Goodey. | Root knot. |

**Southern Rhodesia: Locust Invasion, 1932-39** *

Monthly Report No. 78. May, 1939.

Movements of swarms of the red locust (*Nomadacris septemfasciata*, Serv.) have been reported in a few districts during the month, including:— Mtoko, Inyanga, Melsetter, Ndanga, Makoni, Hartley, Salisbury, Marandellas and Mrewa.

All these districts are situated in the eastern half of the Colony. A very large swarm was reported by a native chief to have entered the Mtoko district from Portuguese East Africa during the third week of the month.

Serious damage to native crops was reported in the Makoni district.

## LEGISLATIVE AND ADMINISTRATIVE MEASURES

**Algeria.** — An Order of June 15, 1939, modifies the scale of payments (by time) paid by importers to the officers of the Plant Protection Service for the inspection of imported plants carried out on Sundays and holidays. (*Journal Officiel de l'Algérie*, Alger, 11 juillet 1939, XIII[e] année, n° 35, p. 1591).

*** An Order of July 1, 1939 authorizes the import of potatoes through all Algerian ports. (*Ibid.*, p. 1590-1591).

**Germany.** — The second Decree of April 29, 1939 relative to the control of the potato wart disease [*Synchytrium endobioticum*] amends the Decree of October 8, 1937 [see this *Bulletin*, 1938, No. 2, pp. 28-29].

Any area where potatoes affected by wart disease are found will be considered contaminated.

The tops of potato plants attacked by wart disease and tubers showing warty protuberances should be carefully collected and burnt *in situ*, or else buried with quicklime at least half a metre under ground.

* Communication from Mr. M. C. Mossop for Chief Entomologist, Agricultural Laboratory, Department of Agriculture, Salisbury, Southern Rhodesia.

Potatoes harvested from infected soil should not be used for planting, and may only be transported outside the farm if authorized by the special Bureau of the Plant Protection Service. Earth, stable manure and liquid manure may no longer be taken outside infected areas.

When an area has been recognized as infected, planting potatoes the following year is prohibited.

Potatoes harvested from areas though not contaminated but pertaining to a farm partly infected may only be taken outside this farm if authorized by the special Bureau of the Plant Protection Service. In the same way taking stable manure and liquid manure outside the farm is prohibited.

Potatoes attacked by wart disease and even those grown outside a farm may only be transported to another area if authorized by the special Bureau of the Plant Protection Service. (*Reichsgesetzblatt*, Teil I, Berlin, 5. Mai 1939, Nr. 85, S. 872).

*** As appendix to a Circular of May 22, 1939, the Minister of Agriculture has published a list of the plants which may be imported with attached earth from America, Belgium, France, Switzerland, the Netherlands and Luxemburg, list provided for by the seventh Decree of May 4, 1939 relative to the Colorado beetle [*Leptinotarsa decemlineata*] [see this *Bulletin*, 1939, No. 7, pp. 157-159]. (*Amtliche Pflanzenschutzbestimmungen*, Berlin, 1. Juni 1939, Bd. XI, Nr. 3, S. 78-80).

*** With a view to preventing the introduction of the cherry fruit fly [*Rhagoletis cerasi*] into England, the import of cherries harvested in Germany has been regulated for 1939 in the same way as in 1937 [see this *Bulletin*, 1937, No. 2, p. 28]. This year, however, the limiting date for unrestricted entry has been fixed at May 18. After this date, phytosanitary restrictions will be applied as in previous years. (*Nachrichtenblatt für den Deutschen Pflanzenschutzdienst*, Berlin, Anfang Juni 1939, 19. Jahrg., Nr. 6, S. 56).

*** By Decree of May, 24, 1939, the Minister of Agriculture exempts fruit classed as ' berries ' (strawberries, raspberries, etc.) from the measures prescribed by the Decrees relative to the introduction of the San José scale [*Aspidiotus perniciosus*] into the country [see this *Bulletin*, 1934, No. 10, p. 221]. These fruits may be imported without restriction and through any customs house. (*Ibid.*, Anfang Juli 1939, Nr. 7, S. 68).

*** By Decree of June 27, 1939, the Minister of Agriculture authorizes unrestricted import of fruits from the Protectorate of Bohemia and Moravia provided that they are sent by post, that the quantity dispatched does not exceed 5 kg., that the fruits are intended for consumption by the consignee, and that there is no danger of the San José scale [*Aspidiotus perniciosus*] being introduced. (*Ibid.*).

**Germany** (**Austria**). — By Decree No. 480 published on April 17, 1939, the control of the San José scale [*Aspidiotus perniciosus*] is made compulsory in nurseries. Control operations by sprays should be carried out in spring according to the instruction of the officer for the control of the San José scale.

Users of nurseries are required to supply all the necessary information regarding the appearance of the insect among their plants and also the origin and sale of their products. (*Amtliche Pflanzenschutzbestimmungen*, Berlin, 1. Mai 1939, Bd. XI, Nr. 2, S. 56-57).

**Germany (Hesse).** — Decree of April 18, 1939, relative to the control of the European corn borer [*Pyrausta nubilalis*] prescribes that maize seed producers must remove all male inflorescences as well as one or two of the lower leaves from the maize plants. The districts where these operations are to be carried out and the dates by when they must be finished will be decided by the authorities in charge.

After harvesting, the stalks should be cut as far down as possible and utilized in such a way, for example, as forage or for ensilage, as to guarantee the effective destruction of any caterpillars they might contain.

Ploughing in maize straw in the fields, letting it lie on the fields, roads, etc., is prohibited. (*Amtliche Pflanzenschutzbestimmungen*, Berlin, 1. Juni 1939, Bd. XI, Nr. 3, S. 80-81).

**England and Wales.** — The Hydrogen Cyanide (Fumigation of Buildings) Regulations of 1938, made by the Secretary of State for Home Affairs and which came into force on February 1, 1939, prohibits, except in accordance with the prescribed conditions, the fumigation with hydrogen cyanide of premises, including agricultural and horticultural buildings if forming part of, or attached to a dwelling house, e. g., a conservatory attached to or leading out of a house, or a farm granary or similar store attached to a farm house.

Fumigation carried out in a building or part of a building specially constructed or adapted for the purpose is exempt from the regulations, as is also the fumigation of agricultural or horticultural buildings which do not form part of a dwelling house. (*The Journal of the Ministry of Agriculture*, London, July 1939, Vol. XLVI, No. 4, p. 401).

*** The Importation of Plants Order of 1939, dated May 16, 1939, made the following provisions:—

(*a*) Prohibition against landing and restriction on transhipment in England or Wales of any potatoes grown in the United States of America, the Dominion of Canada and European France;

(*b*) Prohibition of importation of plants of sugar beet and mangold and of chrysanthemum plants for the prevention of the introduction of virus diseases of *Beta vulgaris* and of the chrysanthemum midge (*Diarthronomyia hypogaea*) respectively;

(*c*) Restrictions on landing in England or Wales of certain plants, potatoes, raw vegetables and raw apples.

Six schedules are appended. (*Statutory Rules and Orders. 1939, No. 532. Destructive Insect and Pest, England. The Importation of Plants Order of 1939. Dated May 16, 1939.* London, 1939, 12 pp.).

**Chile.** — Decree No. 304 of April 30, 1939 authorizes all proprietors of town or country land where plants are cultivated, to report any plant disease

or pest known or suspected to be found in neighbouring properties. (*Diario Oficial de la Républica de Chile*, Santiago, 19 de mayo de 1939, año LXII, núm. 18, 369, pág. 1442).

**Colombia.** — Decree No. 1008 of May 10, 1939 regulates the import of seeds and parts of plants intended for propagation. (*Diario Oficial*, Bogotá, 24 de mayo de 1939, año LXXV, núm. 24077, pág. 556).

**United States of America.** — The revision of the Notice of Quarantine No. 52 on account of the pink boll worm of cotton (*Pectinophora* [*Platyedra*] *gossypiella*) and of the regulations supplemental to the said Notice of Quarantine has been approved on March 7, 1939 and is effective on and after March 15, 1939. (*B. E. P. Q. — Q. 52*, [Washington, D. C.], 1939, 7 pp.).

**France.** — The technical regulation for the control of the sanitary inspection of potato crops intended for seed, in application of Article 8 of the Decree of April 13, 1934 [see this *Bulletin*, 1934, No. 6, p. 129] and approved by the Minister of Agriculture on April 20, 1939, provides for admission to official control, registration of crops admitted to control, organization of control, evaluation of the crop, certificates and guarantee seals and costs of control.

Technical instructions for control are appended to the said regulation. (*Journal officiel de la République française*, Paris, 9 mai 1939, LXXI[e] année, n° 110, p. 5876-5877).

**Italy.** — Royal Decree No. 1016 of June 5, 1939, ratifies the new text of the regulations relative to game protection and hunting.

Article 3 of this text enumerated the mammifers and birds considered as permanently protected game.

Article 4 enumerates the mammifers and birds considered noxious.

Articles 24, 25 and 26 lays down the conditions under which, even when the shooting season is closed, capture is authorized of sparrows (in the wheat and rice zones), starlings and thrushes (in the Provinces of Brindisi, Bari, Tarento and Lecce with a view to protecting the olives).

Article 38 enumerates the animals which must never be killed or captured. (*Gazzetta Ufficiale del Regno d'Italia*, Roma, 25 luglio 1939, anno 80°, n. 172, pp. 3354-3378).

**Jamaica.** — The Banana (Leaf Spot Control) Law 1939, published by the Governor on May 30, 1939, contains provisions for the purpose of affording assistance for the treatment of *Cercospora musae* in the Island. (*Jamaica Gazette Supplement*, 30th May, 1939, Vol. LXII, No. 11, pp. 255-268).

**Morocco (French Zone of).** — An Order of June 26, 1939 modifies the Order of February 25, 1937 relative to the establishment of the syndical Association for the control of the red scale [*Chrysomphalus dictyospermi*] at Foucauld [see this *Bulletin*, 1937, No. 6, p. 126]. (*Bulletin Officiel*, Rabat, 7 juillet 1939, XXVIII[e] année, n° 1393, p. 993).

**Switzerland (Canton of Solothurn).** — A Decree of June 14, 1938, relative to the application of the Decree of Federal Council, dated April 14, 1938 [see this *Bulletin*, 1938, No. 8, p. 176], specifies the measures to be adopted with a view to preventing the introduction of the potato wart disease [*Synchytrium endobioticum*] and the Colorado beetle [*Leptinotarsa decemlineata*] and to controlling these two potato pests.

Anyone observing the presence of the wart disease or the Colorado beetle or symptoms of their presence is required to report to the district authorities immediately. Provision has already been made for high school students to assist in the control of the Colorado beetle, if necessary.

A cantonal centre for the control of the wart disease and the Colorado beetle has been established at the Riedholz School of Agriculture. (*Amtliche Sammlung der Gesetze und Verordnungen des Kantons Solothurn*, 1938, 74. Bd., 2. Heft, S. 339-341).

**South Africa (Union of).** — The Act No. 2 of March 24, 1939, which shall be called the Weeds Amendment Act, 1939, amends the Weeds Act, 1937 [see this *Bulletin*, 1938, No. 1, p. 2]. (*Union Gazette Extraordinary*, Cape Town, 29th March, 1939, Vol. CXV, No. 2620, p. ii).

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## NOTES

**Official Correspondents of the Institute.** — Dr. H. A. EDSON, Head of the Division of Mycology and Disease Survey, Bureau of Plant Industry, United States Department of Agriculture, Washington, D. C. has succeeded Dr. NEIL E. STEVENS as official correspondent of the International Institute of Agriculture in matters relating to plant diseases in the United States of America.

**Resolutions passed by the IXth Assembly of the I. I. R. B.** — The IXth Assembly of the International Institute of Beet Research (I. I. B. R.), which was held at Brussels in January, 1939, decided that the Belgian Institute for Beet Improvement at Tirlemont should undertake an enquiry with a view to ascertaining the extent of the spread of the violet root rot (*Rhizoctonia violacea*) in the different countries represented on the International Institute for Beet Research.

Another resolution was passed to the effect that a methodical control of yellows (a virus disease) should be carried out, by means of legislative measures prescribing the compulsory dusting of sugar and forage beet plants for seed and inspecting their condition; by selecting a variety resistant to yellows; by controlling the aphids, vectors of this disease; and by any other methods.

Prof. UGO PAPI, *Segretario generale dell'Istituto, Direttore responsabile.*

PRINTING OFFICE ' CARLO COLOMBO ' — ROME, SEPTEMBER 14, 1939.

## OTHER PUBLICATIONS ISSUED BY THE INTERNATIONAL INSTITUTE OF AGRICULTURE

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**Actes de la Conférence internationale pour la protection des plantes.** Rome, 10-16 avril 1929. (1929, 201 pp., 8vo) **25** »

**La législation du commerce des plantes.** (1938, XVI + 364 pp., 8vo). *French Edition only* . . . . . **35** »

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